

Work Order ID 131358 -2

131358

Page 1

April-06-15 10:39:45 AM

Item ID: D3537-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Wearpad

Stop *NS2*

Start Date: 4/06/15 Start Qty: 60.00

60

Cust Item ID:

Required Date: 4/17/15 Req'd Qty: 60.00

60

Customer:

Reference:

Approvals: Process Plan: V Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
----------	--------------

D3537	D
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110

0.00

110

FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut D3537-1 as per Dwg D3537

Dwg Rev: D

Prog Rev: D

2-Debur if necessary

(66)

DA 15/04/06

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.00

Quality Control

(66)

DA 15/04/06

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

Work Order ID 131358

April-06-15 10:39:45 AM

131358

Page 2

Item ID: D3537-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Wearpad

Stop

NS2

Start Date: 4/06/15

Start Qty: 60.00

60

Cust Item ID:

Required Date: 4/17/15

Req'd Qty: 60.00

60

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

QC8- Inspect parts - second check

0.00

130

QC

Memo

0.00

Quality Control

66

38
9-89

APR 09 2015

140

Form as per dwg

0.00

140

Brake NC

Memo

0.00

Brake NC

DAS
30
9-89

66

APR 10 2015

150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.00

Quality Control

66

DAS
38
9-89

APR 14 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Work Order ID 131358***131358***

Page 4

Item ID: D3537-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Wearpad

Stop ***NS2***

Start Date: 4/06/15 Start Qty: 60.00

60

Cust Item ID:

Required Date: 4/17/15 Req'd Qty: 60.00

60

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	Identify as per dwg & Stock Location: <u>FP.001</u>	0.00							
210									
Packaging	Memo	0.00				<u>438</u>	<u>4</u>	<u>11</u>	<u>15/04/21</u>
Packaging									
220	QC21- Final Inspection - Work Order Release	0.00							
220									
QC	Memo	0.00							
Quality Control									

AS.421

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐														
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐														
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐														
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐														
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐														
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____																							
Misidentified ☐	Past Due ☐																								

Picklist Print

April-06-15 10:39:45 AM

Page 1

Work Order ID: 131358

131358

Parent Item: D3537-1

D3537-1

Parent Item Name: Wearpad

Start Date: 4/06/15

Required Date: 4/17/15

Start Qty: 60.00

Required Qty: 60.00

Comments: IPP Rev:A New Issue 07-02-14 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S16GA		Purchased	No			100	sf	441.0176	0.106	7			

M304S16GA

304/316 Sheet .063

E 15-4-7

Location

Loc Qty

Loc Code

MAT019

441.0176

m131384

182.0176

m131503

259

9

DQA: _____ Date: _____



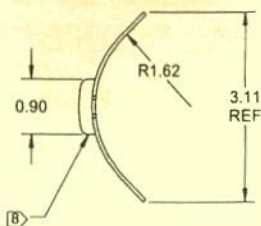
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

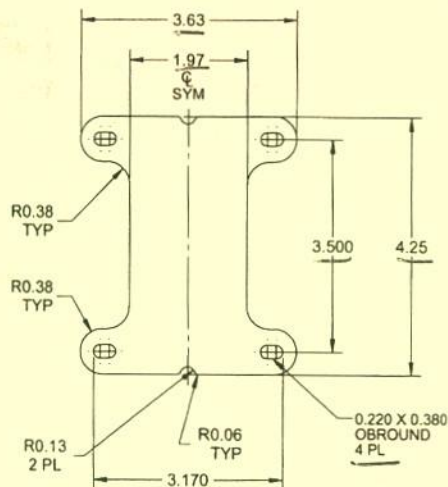
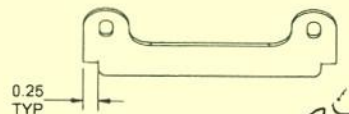
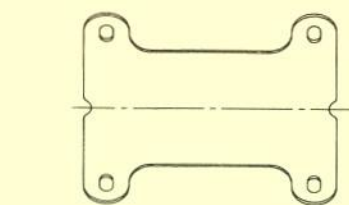
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐					
Misidentified ☐	Past Due ☐						



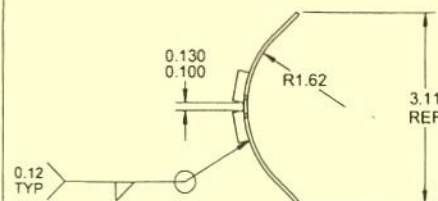
D3537-1 WEARPAD
(MAKE FROM D3537-1F)



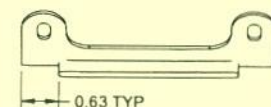
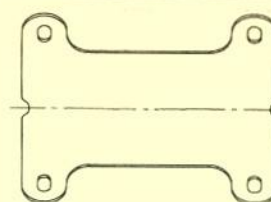
D3537-1F FLAT PATTERN

NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET ANNEALED, 16 GAUGE (0.063) PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240 PER DART SPEC M304S16GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3537-1" PER QSI 044 6.1 (PERMANENT MARKER)
- 7) WEIGHT: 0.42 lbs
- 8) APPLY 2 LAYERS OF 2059B HARDCOAT WELD TO WITHIN 0.25 OF WEARPAD ENDS, 0.19 TO 0.25 THICK
- 9) WELDING: PER QSI 004

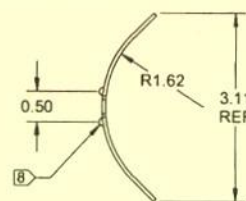


D3537-5 WEARPAD
(MAKE FROM D3537-1F)

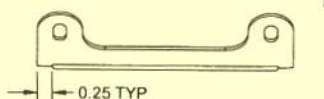
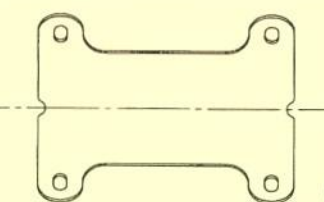


NOTES:

- 1-5) AS PER D3537-1
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3537-5" PER QSI 044 6.1 (PERMANENT MARKER)
- 7) WEIGHT: 0.42 lbs
- 8) APPLY 2 LAYERS OF 2059B HARDCOAT WELD TO WITHIN 0.25 OF WEARPAD ENDS, 0.19 TO 0.25 THICK
- 9) WELDING: PER QSI 004



D3537-9 WEARPAD
(MAKE FROM D3537-1F)



NOTES:

- 1-5) AS PER D3537-1
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3537-9" PER QSI 044 6.1 (PERMANENT MARKER)
- 7) WEIGHT: 0.19 lbs
- 8) APPLY 2059B HARDCOAT WELD BEAD, 0.06 TO 0.13 THICK ON BOTTOM SURFACE, AFTER FORMING
- 9) WELDING: PER QSI 004
- 10) COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING, 0.02-0.04 THICK, PER DART QSI 005 4.9

D	RE-FORMAT DRAWING, ADD -9/-11 WEARPADS	DB	14.10.16
C	WIDEN TAB TO 0.380, WELD PATTERN	CB	07.04.13
B	ADD AMS 5513 AND AMS 5524	CB	07.03.20
A	NEW ISSUE	CB	06.11.06
REV.	DESCRIPTION	BY	DATE
DESIGN	CB	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED	DW	DRAWING NO.	REV. D
MFG. APPR.	DD	D3537	SHEET 1 OF 2
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	WEARPAD	NTS
DATE	14.10.16	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

APPROVED

RELEASED
2014-11-05

DQA: _____ Date: _____

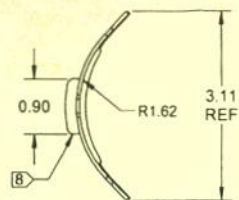


WORK ORDER NON-CONFORMANCE / UPDATE

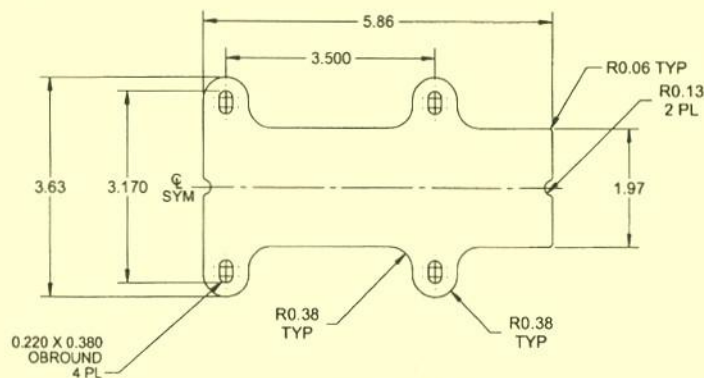
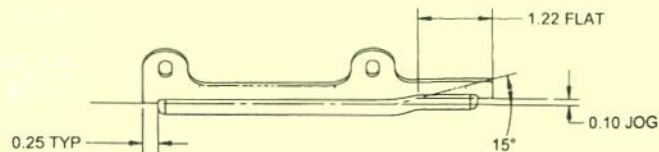
QA Closed: _____ Date: _____

Work Order update only ☐

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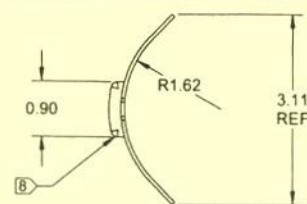
D3537-3 WEARPAD
(MAKE FROM D3537-3F)



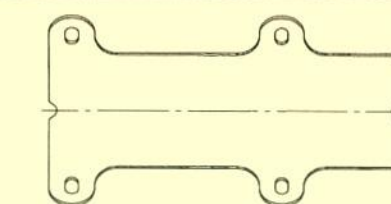
D3537-3F FLAT PATTERN

NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET ANNEALED, 16 GAUGE (0.063) PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240 PER DART SPEC M304S16GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3537-3" PER QSI 044 6.1 (PERMANENT MARKER)
- 7) WEIGHT: 0.50 lbs
- 8) APPLY 2 LAYERS OF 2059B HARDCOAT WELD TO WITHIN 0.25 OF WEARPAD ENDS, 0.19 TO 0.25 THICK
- 9) WELDING: PER QSI 004

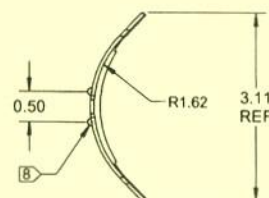


D3537-7 WEARPAD
(MAKE FROM D3537-3F)



NOTES:

- 1-5) AS PER D3537-3
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3537-7" PER QSI 044 6.1 (PERMANENT MARKER)
- 7) WEIGHT: 0.50 lbs
- 8) APPLY 2 LAYERS OF 2059B HARDCOAT WELD TO WITHIN 0.25 OF WEARPAD ENDS, 0.19 TO 0.25 THICK
- 9) WELDING: PER QSI 004



D3537-11 WEARPAD
(MAKE FROM D3537-3F)

NOTES:

- 1-5) AS PER D3537-3
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3537-11" PER QSI 044 6.1 (PERMANENT MARKER)
- 7) WEIGHT: 0.25 lbs
- 8) APPLY 2059B HARDCOAT WELD BEAD, 0.06 TO 0.13 THICK ON BOTTOM SURFACE, AFTER FORMING
- 9) WELDING: PER QSI 004
- 10) COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING, 0.02-0.04 THICK, PER DART QSI 005 4.9

APPROVED

DESIGN	DB	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED	DW	DRAWING NO.	REV. D
MFG. APPR.	DD	D3537	SHEET 2 OF 2
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	WEARPAD	NTS
DATE	14.10.16	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

RELEASED
2014-11-05

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

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DQA: _____ Date: _____

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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
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